

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method of cellular labeling comprising the steps of:

(a) exposing insoluble particles comprising at least one paramagnetic complex of lanthanide or transition metal chelates to cells;

(b) internalizing the insoluble particles inside the cells ~~and~~

(c) degrading the insoluble particles by enzymes or by effectors in the environment surrounding the insoluble particles to form water soluble positive MR-imaging probes and

(d) recording MRI images of the cells by use of T1-weighted sequences.

2. (previously presented) The method of claim 1, wherein the particles are insoluble due to hydrophobic substituents bound to the surface of a chelating cage.

3. (previously presented) The method of claim 2, wherein the hydrophobic substituents are aliphatic chains conjugated to the paramagnetic complex through an ester or amide bond.

4. (previously presented) The method of claim 1, wherein the particles are insoluble due to a macromolecular component.

5. (previously presented) The method of claim 4, wherein the macromolecular component is covalently bound to the paramagnetic complexes.

6. (previously presented) The method of claim 1, wherein the paramagnetic complex comprises a Gd(III) chelate.

7. (previously presented) The method of claim 1, wherein the paramagnetic complex comprises a Mn(II) or a Mn(III) chelate.

8. (previously presented) The method of claim 4, wherein the macromolecular component comprises chitosan or derivatives thereof.

9. (previously presented) The method of claim 8, wherein the paramagnetic complex is entrapped inside the macromolecular network through non-covalent interactions.

10. (previously presented) The method of claim 9, wherein the paramagnetic complex comprises a Gd(III) chelate endowed with a residual negative charge.

11. (previously presented) The method of claim 9, wherein the paramagnetic complex comprises a Mn(II) or a Mn(III) chelate endowed with a residual negative charge.

12. (previously presented) The method of claim 1, wherein the particles are covered by a dextran polymer or other suitable material which favors the formation of stable suspensions and which increases the lifetime of the particles in blood.

13. (previously presented) The method of claim 1, wherein the particles are functionalised with synthons able to target the particles to interact with specific recognition sites on the outer membrane of the cells of interest, thus stimulating cell-internalization.

14. (withdrawn) A method for the localization of arteriosclerotic plaques comprising the steps of:

- (a) exposing insoluble particles comprising at least one paramagnetic complex of lanthanide or transition metal chelates to cells;
- (b) internalizing the insoluble particles inside the cells and
- (c) degrading the insoluble particles by enzymes or by effectors in the environment surrounding the insoluble particles to form water soluble MR-imaging probes,

wherein cells having macrophagic activity are localized.

15. (withdrawn) A method for the detection of occurred transfection in gene therapy comprising the steps of:

- (a) exposing insoluble particles comprising at least one paramagnetic complex of lanthanide or transition metal chelates to cells;
- (b) internalizing the insoluble particles inside the cells and
- (c) degrading the insoluble particles by enzymes or by effectors in the environment surrounding the insoluble particles to form water soluble MR-imaging probes,

wherein transfected cells are localized.